BETACAM SP
2000 PRO

Videocassette Player
PVW-2600
(NTSC)

SONY

A New Dimension in Industrial Video Performance

The excellent performance of the Betacam SP™ format has led to its universal adoption as a high quality, flexible, recording standard throughout the broadcast and post production industries.

This market performance, combined with the recording quality of the format, has made Betacam SP particularly attractive for use by corporate and institutional videographers. To meet this requirement, the long experience of Sony in the field of video recording and its commitment to continuous product development have led to the creation of a more affordable Betacam SP system – the Betacam SP 2000 PRO series.

The PVW-2600 Player is one of the major products in this range. Inheriting the advanced performance of the Betacam SP format, the PVW-2600 assures maximum compatibility with BVW series Betacam SP products and a wide range of their peripheral equipment.

It is equipped with a built-in Time Base Corrector and Time Code Reader. In addition to composite and component video outputs, it offers an S-video Out connector, an RS-422A control port and an optional U-matic Dub Out capability. This comprehensive interfacing makes the PVW-2600 easy to integrate into current editing systems.

Together with the PVW-2600, Sony now has the PVW-2800 Recorder/Player and the PVV-1/DXC-537 Camcorder to form the versatile Betacam SP 2000 PRO family.

Featuring the highest levels of professional performance, ease of operation, flexibility and reliability, they offer an easy and economical way to upgrade your current systems.

FEATURES

Superior Picture Quality

The PVW-2600 will play back the superior picture quality which results from the adoption of the world standard Betacam SP recording format. This format uses the component recording, in which the chrominance signals (R-Y, B-Y) are time compressed and recorded on one track, using CTDM (Compressed Time Division Multiplex) system originally developed by Sony, while the luminance (Y) signal is recorded on a separate track. Therefore cross color and cross luminance effects do not exist in this system. This component two-track recording technology is combined with high frequency FM carriers for each track, providing very wide bandwidths for both the luminance and chrominance signals. Thus pictures with detailed luminance and chrominance information are reproduced. These characteristics create the excellent multi-generation picture performance of the Betacam SP format.

The performance advantages of Betacam SP can also be attributed to the use of metal particle tapes. The PVW-2600 can play back both metal particle tapes and oxide tapes. Any metal tapes recorded by the PVW-2800, PVV-1 and BVW series Betacam SP VTRs, or oxide tapes recorded by the BVW series VTRs, can be played back by the PVW-2600.
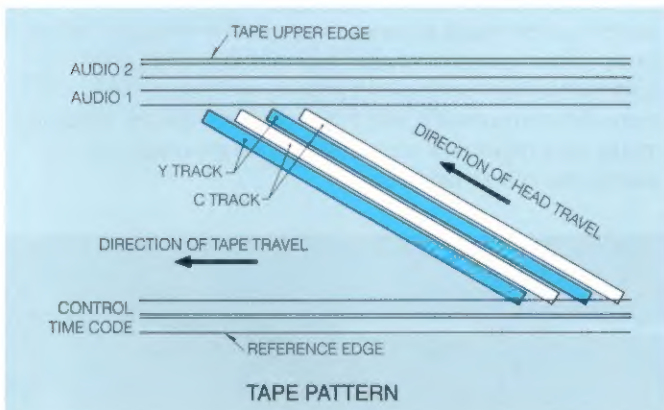
High Audio Quality

The PVW-2600 provides two longitudinal audio channels. Thanks to the tape speed of the format and the adoption of the proven Dolby™ C-type NR (Noise Reduction), the PVW-2600 offers high quality audio with a wide dynamic range even at high frequencies, minimum distortion and excellent S/N ratio.
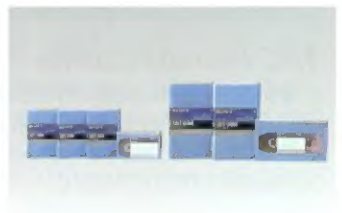
Longer Playback Time

The PVW-2600 accepts both L-size and S-size cassettes, giving playback times of over 90 minutes and over 30 minutes respectively.

Both grades of Sony Betacam SP videocassettes, the BCT series and the SBT series, can be used in the PVW-2600. For the highest possible performance, the BCT series is recommended.
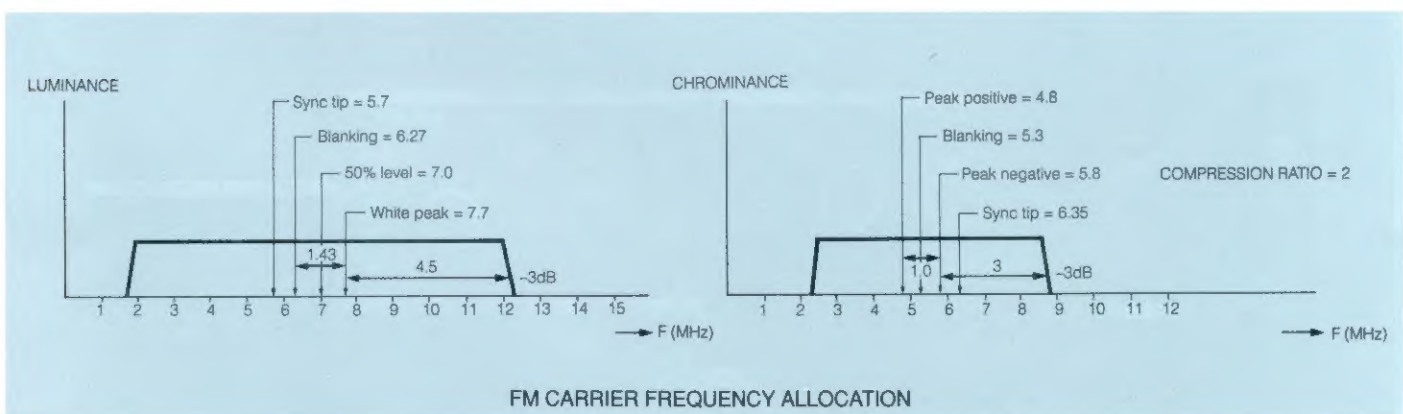

BCT series   SBT series

Compact and Lightweight

Compactness and light weight are key factors designed into the PVW-2600, which weighs approximately 24.5kg (54 lb), and is 5 units high (19-inch rack mountable). The power consumption is 120 W.

TAPE PATTERN

FM CARRIER FREQUENCY ALLOCATION

Subcontrol Panel

Built-in Time Base Corrector

The PVW-2600 is provided with a built-in TBC (Time Base Corrector) as standard. A superior quality output video is obtained directly from the PVW-2600, with no additional time base correction required. Advanced high quality digital dropout compensation also ensures consistent picture performance.

TBC Remote Control

In addition to the built-in TBC adjustment of the PVW-2600, remote adjustments may be performed using the optional BVR-50 connected via the D-sub 15-pin cable to the rear panel connector (TBC REMOTE).

Built-in Time Code Reader

The reading of both VITC (Vertical Interval Time Code) and LTC (Longitudinal Time Code) to the SMPTE format, together with user bits, come as standard in the PVW-2600.

Character Display

The PVW-2600 is provided with a built-in character generator and characters can be superimposed on the signal from Video Output 3 or the Monitor Output. It displays either time code reader data (VITC/LTC/U-BIT) or CTL timer data. VTR function status, including shuttle tape speed, can also be displayed by accessing the setup menu. Furthermore, error number and status can be automatically displayed when the error is detected. Character display is On/Off switchable from the subcontrol panel. When the PVW-2600 is operated under the setup menu mode, the initial setup menu is automatically displayed from the character generator.

High Speed Picture Search

By using the search dial incorporated in the PVW-2600, picture search can be made at various speeds over a range of up to 24 times normal speed in forward and reverse. A recognizable color picture can be obtained at up to ten times (24 times in monochrome) normal speed in forward and reverse. In the jog mode, tape movement accurately follows the rotation of the search dial in both directions.

Rear Panel

Versatile System Interface

• RS-422A serial interface (9-pin)
An RS-422A serial interface is provided for versatile editing system expansion and flexible system control. The PVW-2600 will interface with other RS-422A equipped Sony machines.

• Y/R-Y/B-Y Component Video Signal Output
The PVW-2600 provides two types of connectors for Y/R-Y/B-Y component signal output: three BNC connectors or a Betacam 12-pin DUB connector. This component signal interface allows full advantage to be taken of the superb performance of the Betacam SP format.

• Composite Video Signal Output
In addition to the component connectors, the PVW-2600 is equipped with the composite video signal output connectors.

• U-matic DUB Signal Output
With the optional BKW-2020 U-matic DUB Out Kit installed, the PVW-2600 can transfer Betacam SP material to a U-matic VTR through its 7-pin U-matic DUB output connector with mimimum picture degradation. This transfer is made without being affected by the performance of the Y/C separator in the U-matic VTR.

BKW-2020

• S-video Signal Output
An S-video signal output connector is also provided so that other equipment with S-video connectors can easily be interfaced to the PVW-2600.

User Friendly Dial Menu Operation
In order to meet various customized operations, the PVW-2600 is provided with an initial setup menu which has easy accessibility and simple operation. This initial setup menu allows many operational parameters to be preset for operator convenience. The initial setup menu is scrolled and modified by the search dial while monitoring Video Output 3, Monitor Out, or the LED Timer display. The modified menu is memorized in a non-volatile memory.

Improved Serviceability
For easy maintenance and servicing, the PVW-2600 is provided with comprehensive self-diagnostics. A digital hour meter is also fitted to indicate the accumulated times of power on, drum rotation and tape running. It can also display the number of threading/unthreading operations.

Detachable Control Panel
The control panel of the PVW-2600 can be tilted at up to 90 degrees. Alternatively, the control panel can be removed from the machine to provide remote control from a distance of up to 5m by using the optional BKW-2010 Control Panel Extension Kit and BK-803 Control Panel Case.

19-inch EIA Standard Rack Mountable
With the RMM-100, the PVW-2600 can be mounted into a 19-inch EIA standard rack without taking off the side panel.

OPTIONAL ACCESSORIES

BVR-50
TBC Remote Controller

BVX-10
Component Color Corrector

BKW-2010
Control Panel Extension Kit

BKW-2020
U-matic DUB Output Kit
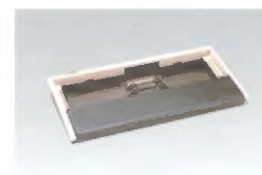
BK-803
Control Panel Case

RMM-100
Rack Mount Kit

BCT-5M/10M/20M/30M
(Small Cassette)
BCT-5ML/10ML/20ML/ 30ML/ 60ML/90ML
(Large Cassette)
Metal Particle Videocassette Tapes

SBT-10M/20M/30M
(Small Cassette)
SBT-60ML/90ML
(Large Cassette)
Metal Particle Videocassette Tapes

RCC-5G/10G/30G
(5m)(10m)(30m)
Remote Control Cable

VDC-C5 (5m)
12-pin Dubbing Cable

TYPICAL CONNECTIONS

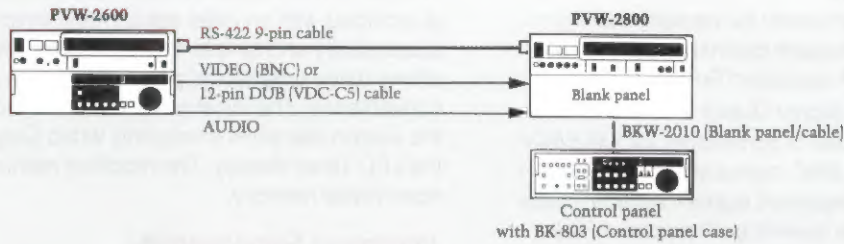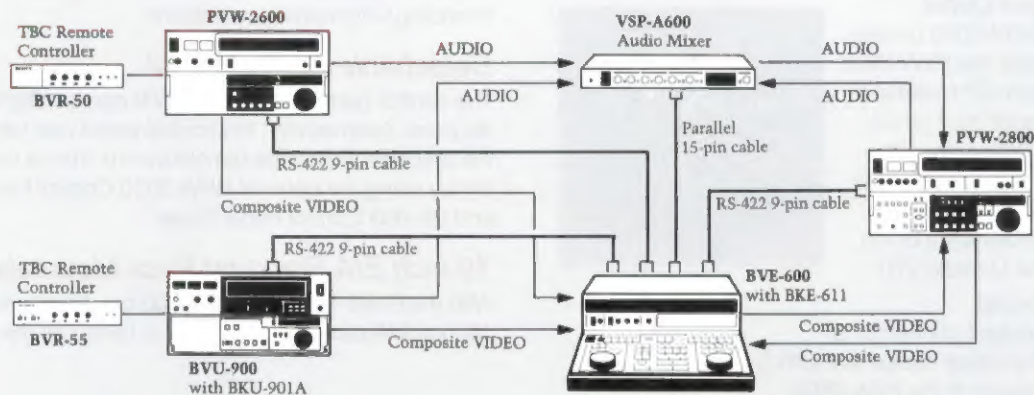## 1) VTR to VTR Editing System

PVW-2600

RS-422 9-pin cable

VIDEO (BNC) or
12-pin DUB (VDC-C5) cable

AUDIO

PVW-2800

Blank panel

BKW-2010 (Blank panel/cable)

Control panel
with BK-803 (Control panel case)

2) A/B Roll Composite Editing System

TBC Remote
Controller

BVR-50

PVW-2600

AUDIO

AUDIO

VSP-A600
Audio Mixer

AUDIO

AUDIO

Parallel
15-pin cable

PVW-2800

RS-422 9-pin cable

RS-422 9-pin cable

Composite VIDEO

TBC Remote
Controller

BVR-55

RS-422 9-pin cable

BVU-900
with BKU-901A

Composite VIDEO

BVE-600
with BKE-611

Composite VIDEO

Composite VIDEO

3) A/B Roll Component Editing System

TBC Remote
Controller

BVR-50

PVW-2600

AUDIO

AUDIO

MXP-290
Audio Mixer

AUDIO

AUDIO

RS-422 9-pin cable

BVS-3200C
Component Switcher

Parallel
15-pin cable

Component VIDEO

Component VIDEO

Component VIDEO

RS-422
9-pin
cable

RS-422 9-pin cable

PVW-2800

RS-422 9-pin cable

TBC Remote
Controller

BVR-50

PVW-2600

BVE-910
Editing Control Unit
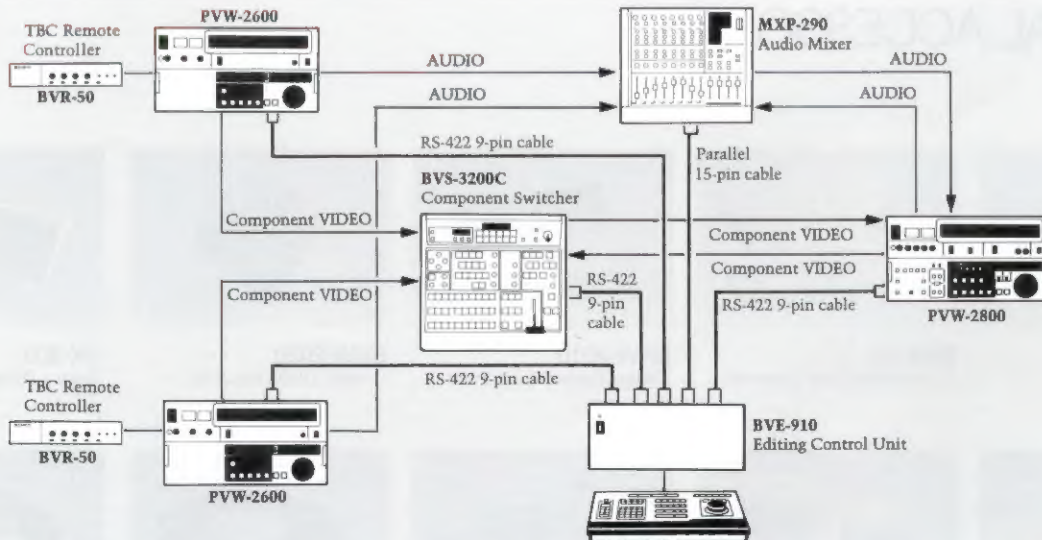
SPECIFICATIONS

General

Power requirements	AC 90 to 265V, 48 to 64Hz
Power consumption	120W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	-20°C to 60°C (-4°F to 140°F)
Humidity	Less than 80% (relative humidity)
Weight	Approx. 24.5 kg (54 lb)
Tape speed	11.86 cm/sec.
Playback time	More than 90 min. with BCT-90ML More than 30 min. with BCT-30M
Fast forward time	Less than 3 min. with BCT-90ML
Rewind time	Less than 3 min. with BCT-90ML
Search speed SHUTTLE	19 steps, still to 24 times normal speed, forward and reverse
JOG	Frame by frame, forward and reverse

Video performance

	Metal Particle Tape	Oxide Tape
Bandwidth Luminance (50% modulation)	30Hz to 4.5MHz $^{+0.5}_{-4.0}$ dB	30Hz to 4.0MHz $^{+0.5}_{-6.0}$ dB
Color difference (50% modulation)	30Hz to 1.5MHz $^{+0.5}_{-3.0}$ dB	30Hz to 1.5MHz $^{+0.5}_{-3.0}$ dB
S/N ratio Luminance (Component IN/OUT)	More than 51dB	More than 48dB
Chrominance AM PM	More than 53dB More than 53dB	More than 50dB More than 50dB
Differential gain	Less than 3%	Less than 3%
Differential phase	Less than 3°	Less than 3°
K-factor (2T pulse)	Less than 2%	Less than 3%
Y/C delay	Less than 20 nsec.	Less than 20 nsec.

Audio performance

	Metal Particle Tape	Oxide Tape
Frequency response	50Hz to 15kHz $^{+1.5}_{-3.0}$ dB	50Hz to 15kHz $^{+3.0}_{-3.0}$ dB
S/N ratio (at 3% distortion level)	More than 72dB	More than 50dB (Dolby NR off)
Distortion T.H.D. (at 3% distortion level)	Less than 1%	Less than 2%
Wow and flutter	Less than 0.1% rms	Less than 0.1% rms

Signal inputs

REF VIDEO IN (BNC)	1.0Vp-p, 75 ohms

Signal outputs

VIDEO OUT 1 (BNC)	Composite video, 1.0Vp-p, 75 ohms, sync negative
VIDEO OUT 2 (BNC)	Composite video, 1.0Vp-p, 75 ohms, sync negative
VIDEO OUT 3 (BNC)	Composite video, 1.0Vp-p, 75 ohms, sync negative, with or without character insertion
COMPONENT OUT 1 (12-pin male) Luminance Color difference	 1.0Vp-p, 75 ohms, sync negative R-Y: 0.7Vp-p, 75 ohms, B-Y: 0.7Vp-p, 75 ohms
COMPONENT OUT 2 (BNC x 3) Luminance Color difference	 1.0Vp-p, 75 ohms, sync negative R-Y: 0.7Vp-p, 75 ohms, B-Y: 0.7Vp-p, 75 ohms
AUDIO LINE OUT (XLR 3-pin male) CH1/2	 +4dBu, 600 ohms, balanced
AUDIO MONITOR OUT (XLR 3-pin male) CH1/2	 +4dBu, 600 ohms, balanced
U-matic DUB OUT (with an optional BKW-2020)	Y: 1.7Vp-p, 51 ohms C: 0.9Vp-p, 51 ohms
S-video OUT	Y: 1.0Vp-p, 75 ohms C: 0.286Vp-p (burst), 75 ohms
TIME CODE OUT (BNC)	1.2Vp-p, 75 ohms

Others

REMOTE IN/OUT	9-pin, female
TBC REMOTE	15-pin, male
MONITOR	8-pin, female
HEADPHONES	JM-60 headphone stereo jack

Processor adjustment range

Video level	±3 dB
Chroma level	±3 dB
Setup level	0 to +15 IRE
Hue	±15°
System SC phase	360°p-p
System sync phase	+3 to -1 µsec.
Y/C delay	±50 nsec.

Supplied accessories

AC power cord (1), Remote control cable RCC-5G (9-pin) (1),
Operation manual (1)

Dimensions
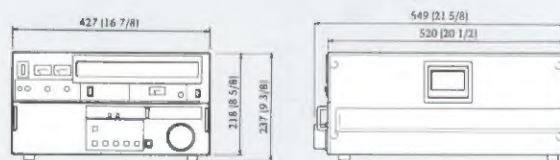
Unit: mm (inches)

* The specifications of "video/audio performance oxide tape" were measured by playing back material on a standard PVW-2600 that had been recorded on a standard BVW series Betacam SP VTR.

* 0dBu = 0.775 Vrms

Design and specifications subject to change without notice.
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